

DAF Field Trial Bus Tour – Bundaberg

A group of about 25 growers, industry personnel and DAF officers from Townsville to Koumala recently travelled to Bundaberg for the DAF Field Trial Annual Bus Tour. The field day, Day 1, was hosted by SRA, Peanut Company of Australia, GRDC and DAF. DAF funded the travel, meals and Day 2 activities. Bega sponsored a dinner function on the final evening. This was a great opportunity to network with the trial hosts and producers we had met briefly over the past two days.



Day 1



The focus of the morning was on peanut crop trials. We visited a population and row configuration trial for a new variety, 'Alloway'. Alongside this was a trial on row configuration and bed design impacts on digging losses. Figures would be available after harvest comparing dual row with single row plantings. Soil moisture in relation to soil type regulates the best time to dig crops. A CEC of below 8 is generally considered most suitability for peanuts.

Figure 1- Peanut crop after digging with an undesirable amount of dirt attached to the nuts

We then visited a soybean trial comparing population density and row configuration. Data for this trial will be available at completion. At a glance, densities of 400000 seeds/ha and above had the best coverage, across all row configurations. In the hard setting soils, keeping the planting rates up appeared to help with germination, as emerging seeds use the 'buddy system' to break through the crust.



Figure 2- Soybean, Kuranda sown at rates of 200000, 300000 & 400000 seed/ha, on different row configurations

We then looked at a demo strip comparing minimum till to full tillage. The minimal till strip was visibly more advanced, suggesting better moisture retention in using minimum tillage.



Figure 3 - Maximum tillage (left) verse minimum tillage (right)



Chemical trials are also underway. Valor has shown good post-plant preemergent control. The dual mode of action was controlling a broad spectrum of weeds. Of the unregistered (unnamed) products in the trial, some were having good weed control with varying impacts on the soybean. Some varieties showed tolerance while others were had being taken out completely.

Figure 4 - A soybean crop taken out by a trial chemical

Finally, we looked at fallow management trials, comparing cane after various legume crops. Bare fallow/replant strips were noticeably poorer, but until harvested, it would be hard to estimate the true impact of the various legumes (soybean, mung bean, peanuts).

Day 2

We visited 2 large farming operations, both over 1000 hectares and both growing peanuts commercially as part of their fallow management. The production practices varied greatly between the two farms and this highlighted to need for an individual approach subject to soil type, water availability and infrastructure, location, management, manpower and personal preference.

At harvest the digger upturns the peanut plant, leaving the nuts on top. The fluffer goes through immediately to lift plants, breaking the sealed contact with the ground. This is important to dry the plant out. Roughly 7 days later the thrasher/harvester picks up the whole plant and separates out the nuts.



Figure 5 - Left to right, 2 row digger, KMC 6 row digger and fluffer

Figure 6 - KMC 6 row digger in action





Figure 7 - A tow behind thrasher and all in one machine

The size of the cane farming equipment gives an indication of the size of the operations we visited. It would have been good to see the peanut and soybean growing practices of a smaller operation, running on a more conservative budget.



Figure 8 - 4 row cane planter



Figure 10 - Wide wheeled machinery, straddles 2 cane rows and suits multiple peanut rows. Narrow tyres reduce damage to the peanut crop

Figure 9 - Big gear requires a big shed!!



Before the trip, I knew nothing about growing peanuts. Admittedly I still don't know a lot, but I think uptake would be uneconomical in the central region at this stage. The soil health benefits and nitrogen fixation are reportedly better than other legume crops. However, cost of seed, regular spray treatments (fungicide/herbicide 7 – 14 days), water requirements, machinery needed, transport and handling, makes soybean an attractive option. The need for consistent soil type, CEC and moisture also limit suitability. The presence of sugarcane root-knot nematode is high in the Bundaberg region which makes peanuts a good rotational crop as it is better at suppressing pathogen numbers than soybean.

Over-all it was an informative trip. Personally, I would have benefited if there had been more focus on soybean but the practices I saw with both crops and the knowledge gained from talking to others on the trip will be very helpful when engaging with growers. I have a better handle on the pros and cons, practical aspects of bed preparation, seeding time, rates, weed and insect management and the benefits to the following cane crop.

DAF is playing a part at the moment in the development of model agreements (lease or share farm arrangements) between landholders/contractors for use on fallow cane land to grow commercial crops. If these come to fruition, they may be modifiable for use locally. This could reduce the risk for both parties and encourage more fallow cropping, better weed management, less plough-out replant and help growers comply with the new fallow legislation.



Figure 11 - Dual row Kuranda



Figure 12 - Some of the Mackay contingent